REMARKS

This is in response to the Official Action mailed October 15, 2002. Claims 1-2 and 4-15 have been canceled. New Claims 18-21 have been added. Accordingly, Claims 16-21 are now pending in the application. Claim 16 has been amended as is further described below.

Claims 1-2, 4-11 and 13-17 have been rejected under 35 U.S.C. § 103(a) as obvious over JP 55-27373 in view of U.S. Patent No. 5,908,914 (Dando et al.). According to the Examiner, the process disclosed in JP 55-27373 wherein rosin is reacted with resol phenol resin and polyhydric alcohol meets the limitation of the present invention except for (i) the nitrogen residue content resulting from the volatile base catalyst (Official Action, p. 3, lines 9-10) and (ii) the requirement of reacting the phenol and formaldehyde in a close reactor (Official Action, p. 3, lines 18-20). With regard to (i), the Examiner takes the position that the process of JP 55-27373 would "intrinsically" possess the same nitrogen residual content (Official Action, p. 3, lines 16-17). With regard to (ii), the Examiner states that Dando et al. discloses that preparing phenol-formaldehyde in a sealed reactor is advantageous, and that it would have been obvious for one skilled in the art to combine Dando et al. with JP 55-27373 to obtain the claimed invention.

However, it is respectfully submitted that Claims 16-17 are not obvious over JP 55-27373 in view of Dando et al. Claim 16 has been amended to expressly recite the phenol-modified rosin ester as recited in now canceled Claim 1 and further to recite the limitations of now canceled Claim 14, i.e. that the phenol-modified rosin ester has a nitrogen residue content resulting from the volatile base catalyst, measured by microanalysis of total nitrogen by a catalyst oxidation conversion method, in the range of 10 to 1,000 ppm. The amendment is supported by Claim 14 as originally filed and by the specification as originally filed (*see, e.g.*,

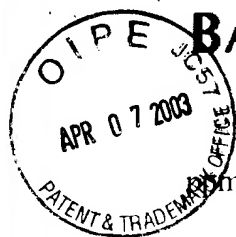


age 14, lines 14-18) and therefore does not constitute new matter. It is respectfully submitted that JP 55-27373 in combination with Dando et al. does not disclose or suggest the nitrogen residue content range recited in Claim 16 as amended. The Examiner takes the position that the process of JP 55-27373 would "intrinsically" (Official Action, p. 3, lines 16-17) or inherently possess the same nitrogen residual content as in the instant claims.

It is respectfully submitted, however, that JP 55-27273 does not inherently disclose or suggest the claimed nitrogen residual content range. For the disclosure to be inherent, it must be "clear that the missing descriptive matter is necessarily present in the ... reference." *Acromed Corp. v. Sofamor Danek Group, Inc.*, 253 F.3d 1371, 1383 (Fed. Cir. 2001), citing *Continental Can Co. USA Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268-69, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991) (emphasis added). See also *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) ("Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."). See also Manual of Patent Examining Procedure § 2112. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat App & Inter. 1990) emphasis in original.

As can be clearly seen in the enclosed Rule 132 Declaration, the nitrogen residual content varies substantially, as shown, for example, by comparing Example 1 (nitrogen residual content = 200 ppm) with Example 2 (nitrogen residual content = 780

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(m). It is respectfully submitted that relatively minor variations in reaction conditions may lead to a nitrogen residual content outside the claimed range of 10 ppm to 1000 ppm. Accordingly, it cannot be stated that the claimed range is "necessarily present in" JP 55-27273, as required by *Acromed* or that it "necessarily flows from the teachings" of JP 55-27273, as required by *Ex parte Levy*. Even assuming that it might be possible for JP 55-27273 to disclose or suggest the claimed range, "[i]nherency... may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Robertson*, 169 F.3d at 745. Therefore, it is respectfully submitted that JP 55-27373 does not "intrinsically" or inherently possess the same nitrogen residual content as in the instant claims.

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Furthermore, it is respectfully submitted that the invention claimed in Claims 16 and 17 shows unexpectedly advantageous features relative to JP 55-27273 in combination with Dando et al. In particular, the enclosed Rule 132 Declaration describes comparative experimental data showing that the binder for printing inks of the present invention, which requires a nitrogen residue content in the recited range, achieves excellent performance as a binder, and that the printing inks exhibit superior printability. The Declaration also shows that only when the phenol-modified rosin ester having nitrogen residue content in the specific range of the invention is employed as a binder, the inks are of high gloss, high fluidity, and excellent in resistance to emulsification and resistance to smudging on printed paper sheets. It is respectfully submitted that one skilled in the art would not find it obvious, based on the teachings of JP 55-27273 in

combination with Dando et al., to obtain the present invention, which shows superior performance as a binder.

In view of the foregoing amendments and remarks, it is respectfully submitted that Claims 16-17 are not obvious over JP 55-27273 in view of Dando et al. Withdrawal of the rejection under 35 U.S.C. § 103(a) of Claims 16-17 as obvious over JP 55-27273 in view of Dando et al. is respectfully requested.

Claim 12 has been rejected under 35 U.S.C. § 103(a) as obvious over JP 55-27373 in view of Dando et al. as applied to Claims 1-2, 4-11 and 13-17 and further in view of either JP 7-126338 or U.S. Patent No. 4,857,624 (DeBlasi et al.). In view of the cancellation of Claim 12, it is respectfully submitted that the rejection is moot.

Claims 1-2, 4-11 and 13-17 have been rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 4,002,585 (Oishi et al.) in view of Dando et al. and either U.S. Patent No. 3,053,807 (Lederman et al.) or *Encyclopedia of Polymer Science and Engineering* ("the Encyclopedia"). According to the Examiner, the process disclosed in Oishi et al. meets the limitation of the present invention except for (i) the volatile base catalyst (Official Action, p. 6, lines 3-4) and (ii) the requirement of reacting the phenol and formaldehyde in a close reactor (Official Action, p. 6, lines 4-6). With regard to (i), the Examiner states that either Lederman et al. or the Encyclopedia discloses a volatile base catalyst, and the Examiner further takes the position that the resin formed using the process of Oishi et al. and the volatile base catalyst of Lederman et al. or the Encyclopedia would "intrinsically" possess the same nitrogen residual content (Official Action, p. 6, lines 7-9). With regard to (ii), the Examiner states that Dando et al. discloses that preparing phenol-formaldehyde in a sealed reactor is advantageous, and that it

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could have been obvious for one skilled in the art to combine Dando et al. with Oishi et al. to obtain the claimed invention.

However, it is respectfully submitted that Claims 16-17 are not obvious over Oishi et al. in view of Dando et al. and either Lederman et al. or the Encyclopedia. As discussed above, Claim 16 has been amended to expressly recite the phenol-modified rosin ester as recited in now canceled Claim 1 and further to recite that the phenol-modified rosin ester has a nitrogen residue content resulting from the volatile base catalyst, measured by microanalysis of total nitrogen by a catalyst oxidation conversion method, in the range of 10 to 1,000 ppm. It is respectfully submitted that Oishi et al. in combination with Dando et al. and either Lederman et al. or the Encyclopedia does not disclose or suggest the nitrogen residue content range recited in Claim 16 as amended. The Examiner takes the position that the process of Oishi et al. using the catalyst of either Lederman et al. or the Encyclopedia would "intrinsically" (Official Action, p. 6, lines 7-9) or inherently result in the same nitrogen residual content as in the instant claims.

It is respectfully submitted, however, that the process of Oishi et al. using the catalyst of either Lederman et al. or the Encyclopedia does not inherently disclose or suggest the claimed nitrogen residual content range. As shown in the enclosed Rule 132 Declaration, discussed above, the nitrogen residual content varies substantially, as shown, for example, by comparing Example 1 (nitrogen residual content = 200 ppm) with Example 2 (nitrogen residual content = 780 ppm). Accordingly, it cannot be stated that the claimed range would "necessarily" result from the process of Oishi et al. using the catalyst of either Lederman et al. or the Encyclopedia, as required by *Acromed* or *Ex parte Levy*. Even assuming that it might be possible for the process of Oishi et al. using

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the catalyst of either Lederman et al. or the Encyclopedia to disclose or suggest the claimed range. "[i]nherency... may not be established by probabilities or possibilities.

The mere fact that a certain thing may result from a given set of circumstances is not sufficient." *In re Robertson*, 169 F.3d at 745. Therefore, it is respectfully submitted that the process of Oishi et al. using the catalyst of either Lederman et al. or the Encyclopedia does not "intrinsically" or inherently possess the same nitrogen residual content as in the instant claims.

Furthermore, it is respectfully submitted that the invention claimed in Claims 16 and 17 shows unexpectedly advantageous features relative to Oishi et al. in combination with Dando et al. and with either Lederman et al. or the Encyclopedia. In particular, as discussed above, the enclosed Rule 132 Declaration shows that the binder for printing inks of the present invention, which requires a nitrogen residue content in the recited range, achieves excellent performance as a binder, and that the printing inks exhibit superior printability. The Declaration also shows that only when the phenol-modified rosin ester having nitrogen residue content in the specific range of the invention is employed as a binder, the inks are of high gloss, high fluidity, and excellent in resistance to emulsification and resistance to smudging on printed paper sheets. It is respectfully submitted that one skilled in the art would not find it obvious, based on the teachings of Oishi et al. in combination with Dando et al. and with either Lederman et al. or the Encyclopedia, to obtain the present invention, which shows superior performance as a binder.



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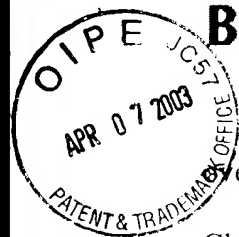
In view of the foregoing amendments and remarks, it is respectfully submitted that Claims 16-17 are not obvious over Oishi et al. in combination with Dando et al. and with either Lederman et al. or the Encyclopedia. Withdrawal of the rejection under 35 U.S.C. § 103(a) of Claims 16-17 as obvious over Oishi et al. in combination with Dando et al. and with either Lederman et al. or the Encyclopedia is respectfully requested.

Claim 12 has been rejected under 35 U.S.C. § 103(a) as obvious over Oishi et al. in view of Dando et al. and either Lederman et al. or the Encyclopedia as applied to Claims 1-2, 4-11 and 13-17 and further in view of either JP 7-126338 or DeBlasi et al. In view of the cancellation of Claim 12, it is respectfully submitted that the rejection is moot.

Claims 1-2, 4-8, 10-11 and 14 have been rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,022,947 (Frihart et al.) in view of Lederman et al. or the Encyclopedia. According to the Examiner, the process disclosed in Frihart et al. meets the limitation of the present invention except for the volatile base catalyst (Official Action of January 31, 2002, ¶ 18). The Examiner states that either Lederman et al. or the Encyclopedia discloses a volatile base catalyst, and the Examiner further takes the position that the resin formed using the process of Frihart et al. and the volatile base catalyst of Lederman et al. or the Encyclopedia would "intrinsically" possess the same nitrogen residual content (Official Action of January 31, 2002, ¶ 18).

However, it is respectfully submitted that Claim 16 (and all claims ultimately dependent thereon), which incorporates the limitations of now canceled Claim 14, is not obvious

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over Frihart et al. in view of either Lederman et al. or the Encyclopedia. As discussed above, Claim 16 has been amended to expressly recite the phenol-modified rosin ester as recited in now canceled Claim 1 and further to recite that the phenol-modified rosin ester has a nitrogen residue content resulting from the volatile base catalyst, measured by microanalysis of total nitrogen by a catalyst oxidation conversion method, in the range of 10 to 1,000 ppm. It is respectfully submitted that Frihart et al. in combination with either Lederman et al. or the Encyclopedia does not disclose or suggest the nitrogen residue content range recited in Claim 16 as amended. The Examiner takes the position that the process of Frihart et al. using the catalyst of either Lederman et al. or the Encyclopedia would "intrinsically" or inherently result in the same nitrogen residual content as in the instant claims.

It is respectfully submitted, however, that the process of Frihart et al. using the catalyst of either Lederman et al. or the Encyclopedia does not inherently disclose or suggest the claimed nitrogen residual content range. As shown in the enclosed Rule 132 Declaration, discussed above, the nitrogen residual content varies substantially, as shown, for example, by comparing Example 1 (nitrogen residual content = 200 ppm) with Example 2 (nitrogen residual content = 780 ppm). Accordingly, it cannot be stated that the claimed range would "necessarily" result from the process of Frihart et al. using the catalyst of either Lederman et al. or the Encyclopedia, as required by *Acromed* or *Ex parte Levy*. Even assuming that it might be possible for the process of Frihart et al. using the catalyst of either Lederman et al. or the Encyclopedia to disclose or suggest the claimed range, "[i]nherency... may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of

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circumstances is not sufficient." *In re Robertson*, 169 F.3d at 745. Therefore, it is respectfully submitted that the process of Frihart et al. using the catalyst of either Lederman et al. or the Encyclopedia does not "intrinsically" or inherently possess the same nitrogen residual content as in the instant claims.

Furthermore, it is respectfully submitted that the invention claimed in Claims 16 (and all claims ultimately dependent thereon) shows unexpectedly advantageous features relative to Frihart et al. in combination with either Lederman et al. or the Encyclopedia. In particular, as discussed above, the enclosed Rule 132 Declaration shows that the binder for printing inks of the present invention, which requires a nitrogen residue content in the recited range, achieves excellent performance as a binder, and that the printing inks exhibit superior printability. The Declaration also shows that only when the phenol-modified rosin ester having nitrogen residue content in the specific range of the invention is employed as a binder, the inks are of high gloss, high fluidity, and excellent in resistance to emulsification and resistance to smudging on printed paper sheets. It is respectfully submitted that one skilled in the art would not find it obvious, based on the teachings of Frihart et al. in combination with either Lederman et al. or the Encyclopedia, to obtain the present invention, which shows superior performance as a binder.

In view of the foregoing amendments and remarks, it is respectfully submitted that Claim 16 (and all claims ultimately dependent thereon) is not obvious over Frihart et al. in combination with either Lederman et al. or the Encyclopedia.

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Claim 12 has been rejected under 35 U.S.C. § 103(a) as obvious over Frihart et al. in view of either Lederman et al. or the Encyclopedia as applied to Claims 1-2, 4-8, 10-11 and 14, and further in view of either JP 7-126338 or DeBlasi et al. In view of the cancellation of Claim 12, it is respectfully submitted that the rejection is moot.

Claim 15 has been rejected under 35 U.S.C. § 103(a) as obvious over Frihart et al. in view of either Lederman et al. or the Encyclopedia as applied to Claims 1-2, 4-8, 10-11 and 14, and further in view of Oishi et al. In view of the cancellation of Claim 15, it is respectfully submitted that the rejection is moot.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

If any fee is due, or if any overpayment has been made, the Commissioner is authorized to charge any such fee or credit any overpayment, to our Deposit Account No. 02-4377. Duplicate copies of this sheet are enclosed.

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Applicant respectfully requests that a timely Notice of Allowance be issued in this

case.

Respectfully submitted,

BAKER BOTTS L.L.P.

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE****In the claims:**

Claims 1-15 have been canceled.

The claims have been amended as follows:

16. (Amended) A binder for printing inks which contains [the] a phenol-modified rosin ester [of claim 10] prepared by reacting rosin with phenol, formaldehyde and polyhydric alcohol, wherein rosin or a polyhydric alcohol ester of rosin is reacted with a resol phenol resin which is prepared by reacting phenol with formaldehyde in a closed reactor under an increased pressure as compared to atmospheric pressure in the presence of a volatile base catalyst and in the absence of a solvent, the phenol-modified rosin ester having a nitrogen residue content resulting from the volatile base catalyst, measured by microanalysis of total nitrogen by a catalyst oxidation conversion method, in the range of 10 to 1,000 ppm.

New claims 18-21 have been added.

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